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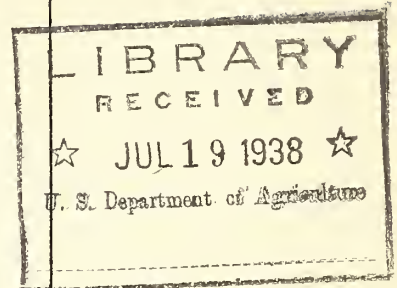
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U. S. Department of Agriculture
WEATHER BUREAU

Fire Weather Service
District 1
CALIFORNIA (R-5)

OPERATING PLAN
1937



San Francisco, Calif.
July 7, 1937

To Recipients of this Plan:

This portion (paragraphs 1 to 15, inclusive) of the Operating Plan of the Fire Weather Service in California is forwarded for your information and use. Other parts of the plan, of interest to Weather Bureau personnel only, are not being supplied.

If at any time you have suggestions or comments you wish to make concerning the plan, they will be appreciated and given careful consideration. Your cooperation in the past has been very helpful to this office, and it is hoped that this plan will further the development of the Fire Weather Service so that your needs will be met more adequately.

This plan becomes effective July 10, 1937, and will be revised from time to time as the need arises. It is suggested that your copy be preserved for permanent reference. A supply is being sent to each protection headquarters point, and it is requested that Supervisors and others receiving more than one copy effect additional distribution (to District Rangers and elsewhere as needed).

Very truly yours,

E. H. Bowie,
Meteorologist in Charge.

G.
FW-50
250 copies.

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INTRODUCTORY

1. Reorganization of the fire weather service in California (District No. 1), with increased facilities and personnel, has made the formulation of a more definite operating plan imperative.

2. This plan therefore has been prepared for the information and guidance of Weather Bureau fire weather personnel and cooperating protection agencies in California, based on the general plan approved by the Chief of Bureau April 27, 1937. Parts of the plan of interest to Weather Bureau personnel only will not be supplied to protection agencies.

3. Paragraphs are numbered for convenient reference. Revisions of and additions to the plan will be made from time to time as needed. Effort should be made to keep your copy of the plan up to date, by destroying obsolete material, and making corrections, insertions and additions as revisions are received.

4. Departures from this plan are not permissible with^{out} specific and prior authority. Correspondence concerning the plan should be addressed to Official in Charge, Weather Bureau Office, San Francisco, Calif.

FORECAST SERVICE

5. Refer to the U. S. Forest Service Region 5 Fire Plan for general features of service for any given season in condensed form. In general, forecast and associated service available is as follows:

SAN FRANCISCO WEATHER BUREAU OFFICE

(a) The California Fire Weather Official will be continuously available at San Francisco throughout the fire season. He may be reached as follows:

Telegraph: OBSERVER, SAN FRANCISCO, CALIF.

Mail: WEATHER BUREAU OFFICE, SAN FRANCISCO, CALIF.

Telephone: Between 9 a.m. and 9 p.m., Market 1612 or 1613; between 9 p.m. and 9 a.m., Valencia 6430.

Radio: Between 7 p.m. and 9 p.m. (Call KBAJ, frequency 3385 kc., to be changed shortly to 3397.5 kc. and suitably announced).

The Fire Weather Official at San Francisco is Mr. Leslie G. Gray.

(b) The District Forecaster on duty at San Francisco will prepare a general fire weather forecast for California twice daily (at about 7 a.m. and 6 p.m.), which will be published on the San Francisco weather map; in local newspapers and will be broadcast by a few commercial radio stations, but will not be disseminated otherwise. This forecast, together with other State forecasts and all available observational data, will be used for guidance by the Fire Weather Official,

who will modify, amplify and localize in some detail as may be required in the preparation of condensed, localized forecasts and warnings for the various fire weather forecast areas shown on the accompanying key map.

(c) The Fire Weather Official will telegraph condensed, localized forecasts for the various fire weather forecast areas in the California fire weather district as may be appropriate to OBSERVER, MT. SHASTA, CALIF. and to OBSERVER, PASADENA, CALIF. daily via Western Union when mobile units are at base stations. If away from headquarters at Mt. Shasta and Pasadena, however, the daily forecasts for mobile unit guidance will be sent to appropriate addresses by any practicable means of communication, as may be arranged with mobile units. When emergency conditions prevail, and upon request by mobile unit Fire Weather Specialists concerned, such guidance forecasts will be telegraphed twice daily during the period of such emergency only. All such telegrams must be filed not later than 7 a.m. or p.m., as appropriate. In general, regular guidance forecasts will be prepared in the PM only. Mobile unit Fire Weather Specialists may consult with the Fire Weather Official by telephone in connection with going fire service.

(d) Regular daily localized forecasts for fire weather forecast areas Nos. 17 to 31 (see key map) will be prepared by the Fire Weather Official and broadcast by Forest Service radiophone at 8 p.m. daily, Pacific Standard Time (KBAJ, 3385 kc. later to be changed to 3397.5 kc. and suitably announced). Similar broadcasts also will be made at 8 a.m. when emergency conditions prevail. KBAJ will stand by, listening on all Forest Service frequencies in frequent rotation, from 7 to 9 p.m. daily, and requests for special forecasts or weather information for fire control uses may be made at such times by radio by Forest Service and other protection agency stations within the San Francisco forecasting area. KBAJ, in emergencies, will stand by from 8 a.m. to 8:15 a.m.

(e) The Fire Weather Official will prepare and send daily via Western Union prepaid a condensed, localized fire weather forecast for California, to State Forester, Sacramento, Calif. who will disseminate pertinent information further to State Rangers if warranted.

(f) The Fire Weather Official will prepare a daily fire weather bulletin (on an appropriate form) by 10 a.m., including a summary of California conditions and condensed localized forecasts for Northern, Central and Southern California areas (see key map). Two copies of this bulletin and two copies of the San Francisco weather map, when issued, will be mailed to Fire Control, U. S. Forest Service, Phelan Bldg., San Francisco, Calif.; one copy and one map to State Forester, Sacramento, Calif.; one copy and one map to L. F. Cook, National Park Service, 616 Sheldon Bldg., San Francisco and same to Fire Control, National Park Service, 332 Hilgard Hall, U. of C., Berkeley, Calif.; and one copy and one map will be retained for file. If unusual conditions are indicated, condensed information concerning them also will be telephoned

immediately to the Regional Office, Forest Service and to the National Park Service in San Francisco and Berkeley, and will be included in the daily telegram to State Forester, Sacramento. At frequent intervals, the Fire Weather Official will call Fire Control, Forest Service and Mr. Cook of the National Park Service for consultation concerning the fire and weather situation in California.

(g) The Fire Weather Official will prepare daily except Saturdays and Sundays, by 10:30 a.m., a general fire weather summary and outlook, for broadcasting in the Western Farm and Home Hour program of the National Broadcasting Company's Pacific Coast Blue Network. The summary will include conditions in all western states reached by the program; and the outlooks or forecasts will be only for the states in the San Francisco forecast district (California, Nevada, Oregon, Washington and Idaho). The outlooks will be condensations of state fire weather forecasts prepared by the District Forecaster, except that occasional more detailed forecasts supplied during exceptionally critical periods by Fire Weather Officials in the various states, will be included. From time to time, the various protection agencies will supply special fire news and fire prevention items for inclusion in the broadcasts in such a way as to be directly related to the weather statements made. The following stations in this network will handle the program, beginning July 6 and continuing until the close of the main part of the fire season (about October 15):

Station	Location	Frequency (kc.)	Daytime Power (Watts)
KFSD	San Diego	600	1000
KBCA	Los Angeles	1430	5000
KGO	San Francisco	790	7500
KFBK	Sacramento	1490	5000
KWG	Stockton	1200	100
KMJ	Fresno	580	1000
KERN	Bakersfield	1370	100
KLO	Ogden	1400	500
KEX	Portland	1180	5000
KJR	Seattle	970	5000
KGA	Spokane	1470	5000
KGIR	Butte	1340	2500
KGHL	Billings	780	2500
KTAR	Phoenix	620	1000

These broadcasts are general in nature and will not take the place of the more localized forecasts broadcast by Forest Service radiophone, and by KEX and KJR for Washington and Oregon.

(h) The Fire Weather Official will furnish special localized forecasts for GOING FIRES at any point in California, but only when mobile units cannot be contacted direct by radio or otherwise, are already engaged, or actual travel of mobile units to the scene is not desired. Make requests for such service at Weather Bureau expense by wiring OBSERVER, SAN FRANCISCO, CALIF. checked COLLECT WEATHER (not otherwise),

and reply will be prepaid. Please give a reasonable amount of detail concerning fire location, general situation, to whom forecasts should be sent, for how long, and if appropriate, statement of what weather conditions will most adversely affect control (winds from certain directions, etc.). Requests by telephone may be made at recipient's expense, Market 1612 or 1613, San Francisco, between 9 a.m. and 9 p.m., and Valencia 6430 between 9 p.m. and 9 a.m. Telegrams received between the latter hours cannot be acted upon immediately because of delivery difficulties, and telephone is advised.

(i) Special forecasts for general fire control uses may be secured as in section (h) above.

(j) Special forecasts for general forest administrative uses will be supplied upon request to OBSERVER, SAN FRANCISCO, CALIF. ONLY, at recipient's expense for all communication charges. Mobile units have no authority to supply such forecasts and requests should not be made to them.

(k) The Fire Weather Official will, in all cases when mobile units become temporarily inoperative for any reason, provide forecasts by wire prepaid as needed for areas otherwise normally served by mobile units. Such forecasts will not be sent daily unless required by emergency conditions. Instead, they will be sent from time to time when changes of material consequence to fire control are indicated, and in the absence of such forecasts, the prevailing conditions with no material changes are expected to continue.

(l) Forest areas unable to secure regular forecast service by radio broadcasts from KBAJ, KBCJ or KBDW (San Francisco, Pasadena or Mt. Shasta) due to lack of radio equipment or other continuously operative condition, will be sent occasional forecasts by wire prepaid as in (k) above.

(m) The Fire Weather Official at San Francisco may initiate special warnings at any time if required by circumstances between the regular times for issuing forecasts, such as warnings of thunderstorms, high winds, exceptionally low humidities or rain. In general, special warnings will usually be of short-period nature, but occasional long-period outlooks may be appropriate. Distribution of special warnings will be direct to all recipients, except that distribution will be to the proper mobile unit for the area where the unit is then serving, rather than to the protection agency concerned with this local area. The unit will locally disseminate such special warnings.

(n) Regular daily fire weather forecasts sent in prior years to regular first-order Weather Bureau stations in California will be discontinued. Instead, occasional forecasts, prepared by the Fire Weather Official, similar to those in section (l) above, will be sent by wire to

Observer, Eureka, Calif. (for dissemination locally to
lumber operators and to State Ranger through the Redwood
Association)
Observer, Redding, Calif. (for State Ranger)

Observer, Los Angeles, Calif. (for local dissemination to the general public and weather map publication, and telephone dissemination to local protection agencies)
Observer, San Diego, Calif. (as above, including State Ranger, La Mesa, without cost to Weather Bureau).

(o) Fire Control, Regional Office, Forest Service, San Francisco; National Park Service, San Francisco and Berkeley; and the State Forester, Sacramento, will be notified promptly by telephone (telegraph to State Forester) concerning any special warnings affecting their respective areas, followed by mailed confirmations. See Region 5 Fire Plan for addresses.

(p) When special forecasts are sent direct to recipients on the initiative of San Francisco, advisory wires will be sent to the Mt. Shasta and Pasadena mobile units as appropriate.

(q) In the absence or illness of the Fire Weather Official, the District Forecaster on duty will prepare all forecasts and bulletins normally prepared by the former.

6. MOBILE UNITS

(a) Two mobile fire weather forecast units are available for fire weather service, especially on GOING FIRES, in the California district. These units operate from bases at Mt. Shasta and Pasadena. The Fire Weather Specialist in charge of each unit will be continuously available throughout the fire season. Addresses are as follows:

PASADENA UNIT, Mr. Francis C. Crombie, Fire Weather Specialist in charge.

Telegraph: OBSERVER, PASADENA, CALIF. (WU) except when absent on fire or inspection duty.

Mail: WEATHER BUREAU OFFICE, PASADENA, CALIF.

Telephone: Wakefield 6117 or 6118 (office); Wakefield 7224 (residence), both Pasadena.

Office is located in Federal Building, with the Central Dispatcher, Angeles National Forest.

Radio: KBCJ, 3397.5 kc. (standby from 8:00 to 8:30 p.m. daily, same in AM during emergencies)

MT. SHASTA UNIT, Mr. Thomas W. Booth, Fire Weather Specialist in charge.

Telegraph: OBSERVER, MT. SHASTA, CALIF. (WU) except when absent on fire or inspection duty.

Mail: WEATHER BUREAU OFFICE, MT. SHASTA, CALIF.

Telephone: MT. SHASTA 81, Local 5 (office); Mt. Shasta 86 (residence).

Office is located in Forest Service building, with the Supervisor, Shasta National Forest.

Radio: KBDW, 3397.5 kc. (standby from 8 to 9 p.m. daily, same in AM during emergencies)

Services of these units are available to all protection agencies, Federal, State, County or private.

(b) California has been divided into two mobile unit operating districts (see key map).. Areas Nos. 1 to 25 inclusive are in the Mt. Shasta district and the Mt. Shasta unit is responsible for going fire service in these areas (all north of the double line on the key map), and for regular daily radio broadcasts of localized fire weather forecasts for areas Nos. 1 to 16, inclusive. The Pasadena unit similarly is responsible for going fire service in areas Nos. 26 to 48, inclusive (south of the double line on the key map), and for regular daily radio broadcasts of forecasts for areas Nos. 32 to 48, inclusive. The San Francisco office is responsible for regular daily radio broadcasts of forecasts for the intermediate areas between the dotted lines on the key map, Nos. 17 to 31, inclusive. San Francisco will provide going fire forecast service, however, for any point in the state when mobile units cannot so function for any reason, but such service, of course, will be of the remote type, whereas mobile units proceed directly to the fire for forecasting and consultation service.

(c) The Fire Weather Specialists will prepare daily in PM localized fire weather forecasts for the areas for which they normally broadcast (see (b) above), based on guidance forecasts telegraphed from San Francisco and all available observational data, which will include synoptic charts prepared twice daily during the major part of the fire season (AM and PM) and once daily near the beginning and towards the close of the fire season (PM), special reports from fire weather stations, and airways stations when desirable. Such forecasts will be prepared and broadcast twice daily during emergencies. Forecasts will be prepared for each of the areas in the district shown on the key map, but when broadcasting such forecasts, if similar for different areas, the same forecast may be given for a group of such areas mentioned individually by name. The Fire Weather Specialist will amplify, modify and localize in greater detail the guidance forecasts telegraphed from San Francisco, when circumstances require. Localized forecasts prepared by the Fire Weather Specialist may be disseminated freely to protection agencies by Government telephone or radio, but may not be disseminated otherwise except at the expense of recipients.

(d) The regular daily forecasts prepared by mobile units will be broadcast by Forest Service radiophone daily on 3397.5 kc. at 8:15 p.m. (Pasadena unit) and at 8:30 p.m. (Mt. Shasta unit), and at the same times in AM during serious conditions. These broadcasts will be continued whether the mobile unit is at its base station or in the field on going fire or other duty during the fire season proper. If the mobile unit is unable to make the regular broadcasts for any reason, the San Francisco office will furnish forecasts direct to the areas concerned if material changes in prevailing conditions, of material consequence to fire control, are indicated. See sections (k) and (l) under San Francisco heading, paragraph 5.

(e) After the conclusion of each broadcast, KBDW and KBCJ, mobile unit stations, will stand by for special calls from protection agency stations in their respective districts.

listening on all pertinent frequencies in rotation, as outlined in section (a) preceding, and at such other times as may be arranged in emergencies.

(f) GOING FIRE SERVICE: Mobile units will serve directly on going fires to provide the maximum practicable localized forecasting and consultation service. Wire or telephone (preferably the former) requests for this service to FIRE CONTROL, FOREST SERVICE, SAN FRANCISCO, CALIF. However, any individual area (National Forest, Park, State Ranger District, etc.) where the mobile unit is serving currently may request service direct from the unit, which will notify OBSERVER, SAN FRANCISCO promptly by wire concerning its engagement in the field by this means. Other protection offices, however, will not necessarily know the current address of the unit, and reference to a central dispatcher is necessary. Such reference also is desirable to adequately handle conflicting requests. Therefore, the Regional Dispatcher will decide which fire the unit will proceed to, and the San Francisco Weather Bureau Office (Fire Weather Official) will immediately furnish localized forecasts for the other fire or fires by wire or telephone (if urgent) prepaid. The Regional Dispatcher (telephone EXbrook 0778, San Francisco during ordinary business hours; see Regional Fire Plan for other numbers) will dispatch mobile units ONLY THROUGH THE WEATHER BUREAU, SAN FRANCISCO (telephone Market 1612 or 1613, 9 a.m. to 9 p.m.; Valencia 6430, 9 p.m. to 9 a.m.). Both the Regional Dispatcher and the Weather Bureau will at all times keep one another fully informed on matters pertinent to operation of mobile units.

(g) Mobile units will report by wire (or telephone in serious emergencies) their telegraphic and mail addresses whenever a change is made or is in prospect, heading such messages with the word "FIRE", addressing them to OBSERVER, SAN FRANCISCO, CALIF., COLLECT WEATHER, and being certain to mention times and places at which stops will be made so that replies, if needed, may be sent with a minimum loss of time. It will be the practice in such messages to indicate one or two places at which stops will be made at local telegraph offices at certain times to pick up replies, if any, in the event that the unit will be in travel status for longer than three hours. Mobile units also will report promptly any condition which will prevent normal functioning as far in advance as practicable; so that San Francisco can furnish prompt, temporary service. All conditions and messages affecting mobile unit operation will be telephoned immediately on receipt to the Regional Dispatcher, followed by a mailed confirmation. Such messages also should be referred immediately to the Fire Weather Official in person or by telephone as soon after receipt as practicable, if he has not himself received the messages from units. Similarly, any messages from the Fire Dispatcher should be referred promptly to the Fire Weather Official by assistants at the San Francisco Weather Bureau Office.

(h) The Fire Weather Specialists in charge of mobile units may be contacted by protection agencies by Government telephone, radio or otherwise (if recipient pays all charges) to secure special forecasts for use in general fire control

or for going fires when actual travel of the unit to the area concerned is not desired and when current address of the unit is known through its announcement of location in radio broadcasts or otherwise.

(i) Mobile units will secure such fire weather station reports as are needed in the localized forecasting work, and in accordance with standard arrangements and practices as to items of observation, etc., directly from the areas concerned by Government telephone or radio, but not otherwise. ~~Supplementary reports, when needed and not obtainable in these ways, will be telegraphed to units from San Francisco on request.~~ The various areas will telegraph fire weather station reports only as instructed, to OBSERVER, SAN FRANCISCO, CALIF. only, checked COLLECT WEATHER, for such uses, for preparation of guidance forecasts and for information of protection agencies. The previous practice of relaying certain reports through regular Weather Bureau Offices other than San Francisco will be discontinued.

(j) When mobile units are absent from base stations at Mt. Shasta and Pasadena, on active duty, they will make necessary arrangements with Forest Service personnel to continue collection of telephoned reports at the headquarters point and to relay them to the unit by radio, so that the reports normally secured will continue to be available for forecast purposes. Those collected by radio normally should continue to be collected in this way by mobile units from field stations.

(k) Mobile units will not issue forecasts for general forest administrative uses, but will refer such requests, if received, to San Francisco for action.

(l) It is expected that all protection agencies receiving fire weather forecasts by any means will disseminate them further locally so that maximum benefits will be attained. Local dissemination to lumbering and logging interests, cooperators and others interested is requested.

(m) In case of unavoidable absence or illness of mobile unit operating personnel, relief will be furnished from San Francisco or service will be continued from that point as adequately as possible, according to circumstances.

(n) The following announcement will precede all Forest Service radiophone broadcasts of fire weather forecasts, repeated three times (to allow for tuning):

Special fire weather forecasts for.....California areas from(Station call), United States Weather Bureau fire weather station at.....(place). (Pasadena unit will use Southern California in above, San Francisco will use Central California and Mt. Shasta Northern California.)

Each individual forecast will be preceded by the words: "Special fire weather forecast for....(name of area or areas)" and each such heading and forecast will be repeated

once before going on to the next. At the conclusion of the broadcast, the following statement will be made: "This concludes the special fire weather forecasts for.....California from(call), United States Weather Bureau fire weather station at....(place).(Call) standing by for any calls from Forest Service stations inCalifornia; go ahead, please." Given once.

In addition, care will be taken to comply fully with the terms of the authorization under which the radiophone equipment is operated, as condensed on the back of the radio log form.

(o) Each mobile unit official in charge will mail as promptly as possible one copy of each forecast of any type issued by him, to WEATHER BUREAU OFFICE, SAN FRANCISCO, CALIF., marked FIRE WEATHER, for permanent record.

(p) When in the judgment of the Fire Weather Specialist, rapid and unusual changes in the existing situation, not adequately covered by prior forecasts, are occurring or are likely to occur, the Fire Weather Specialist will send an advisory wire to OBSERVER, SAN FRANCISCO, CALIF. expressing his views. He will locally disseminate any special warnings considered necessary to the area where the mobile unit is then serving. The Fire Weather Official at San Francisco will send out special forecasts or warnings direct to recipients if these are believed to be warranted, including an advisory to mobile units as appropriate. Advisory messages from Fire Weather Specialists should be signed with the last name of the individual concerned. When practicable, Fire Weather Specialists should await receipt of a reply from San Francisco before effecting local dissemination of special warnings under the foregoing conditions, but he may issue such warnings before reply is received if warranted by the situation, in his judgment. The foregoing applies to unusual circumstances affecting more areas than that on which the mobile unit is serving. If affecting only the latter area, advisory messages need not be sent to San Francisco. Instead, the Fire Weather Specialist should prepare and disseminate locally any warnings deemed necessary for the local area. Mobile units may effect dissemination only by Government telephone or radio except other means are authorized if arranged by recipients, at expense of the latter.

7. The key map following, showing California fire weather forecast areas, constitutes this paragraph.

FIRE WEATHER FORECAST AREAS



8. California has been divided into the following unit areas for the localization of fire weather forecasts. These divisions are based on administrative protection unit areas and on general similarity of meteorological conditions. Forecast telegrams and radio broadcasts by mobile units will refer to these areas by name. SEE KEY MAP PRECEDING.

Area No.	Name	Area No.	Name
1	Del Norte	25	Stanislaus
2	Klamath	26	Mono
3	Plateau	27	Yosemite
4	Modoc	28	Monterey
5	Humboldt	29	Salinas
6	Trinity	30	Fresno
7	Shasta	31	Sierra
8	Redding	32	Inyo
9	Lassen	33	Sequoia
10	Volcanic	34	Park
11	Basin	35	Kaweah
12	Tehama	36	Obispo
13	Willits	37	Los Padres
14	Mendocino	38	Kern
15	Butte	39	Desert*
16	Plumas	40	Ventura
17	Tahoe	41	Angeles
18	Sonoma	42	County
19	Lake	43	San Bernardino
20	Auburn	44	Cajon
21	Eldorado	45	Orange
22	Santa Cruz	46	Cleveland
23	Contra Costa	47	Riverside
24	Stockton	48	San Diego

*Rarely used, and then only for information Pasadena unit.

(b) MT. SHASTA MOBILE UNIT DISTRICT shown north of double lines on key map, includes Areas Nos. 1 to 25.

(c) PASADENA MOBILE UNIT DISTRICT shown south of double lines on key map, includes Areas Nos. 26 to 48.

(d) LOCALIZED FORECASTS BROADCAST BY RADIO (M SETS) ON 3397.5 KILOCYCLES DAILY AS FOLLOWS (TWICE DAILY DURING EMERGENCIES, SAME TIME BOTH AM AND PM):

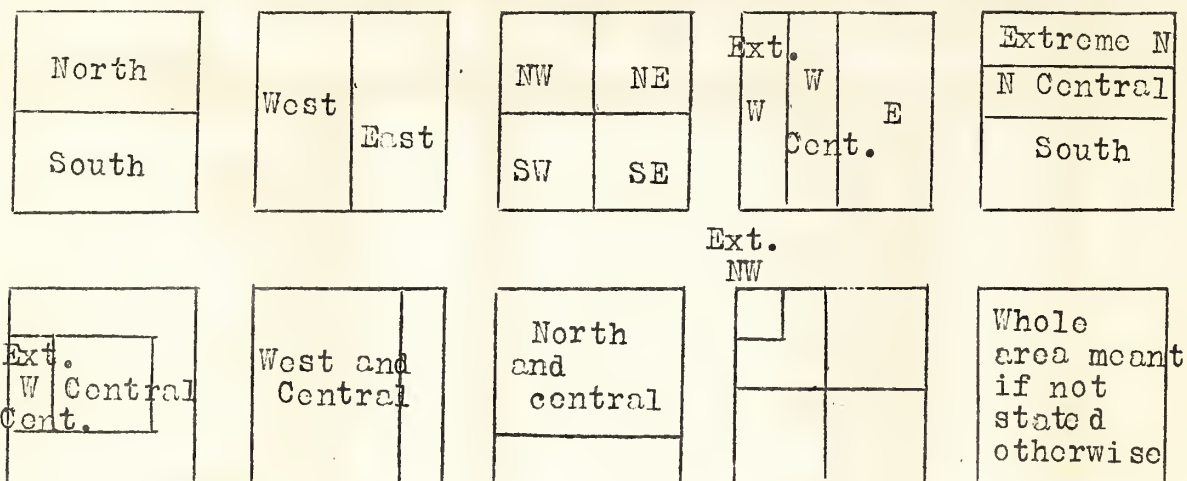
(e) SAN FRANCISCO WEATHER BUREAU; 8 P.M. Pac. Std. Time, for Areas Nos. 17 to 31 (between dotted lines on key map).

(f) PASADENA MOBILE UNIT; 8:15 P.M. Pac. Std. Time, for Areas Nos. 32 to 48 (south of southerly dotted line on key map).

(g) MT. SHASTA MOBILE UNIT; 8:30 P.M. Pac. Std. Time, for Areas Nos. 1 to 16 (north of northerly dotted line on key map).

(h) State-protected areas in the foregoing list are those outside National Forests, Parks, Monuments and Indian Reservations.

9. The unit areas listed in paragraph 8 may be further subdivided if required by circumstances into "PORTIONS" given direction designations, or occasionally, by mention of major slopes or other topographic divisions, altitude zones or fire danger rating zones:



The foregoing diagrams are based on a regular figure. In practice, of course, no forecast area is actually regular, and approximate division along the lines indicated is intended. The divisions given above are samples; similar division of other parts of the area can be made, such as extreme southeast, extreme north central, etc. The central portion in the first figure at the left in the second row of diagrams can be divided into four equal parts, given names such as northwest central, southeast central, etc.

10. The unit areas given in paragraph 8 may be combined when required by circumstances, and general designations substituted as follows:

NORTH COAST: Areas Nos. 1, 5, 13, 18.
CENTRAL COAST: Areas Nos. 22 (west half), 29 (west half), 28, 36 (west half) and extreme northwest portion 37.
SOUTH COAST: Areas Nos. 37 (southwest portion), 40, 42 (southwesterly half); 45, west slopes northwestern 46, and west half 48.
NORTH COAST RANGE: Areas Nos. 6, western 7, 14 and western 19.
CENTRAL COAST RANGE: Areas Nos. 23, eastern 22, eastern 29, eastern 36.
SOUTH COAST RANGE: Areas Nos. 37, northwestern 41, 46 and high parts of western 48.
SISKIYOU: Areas Nos. 2 and 3.
NORTHEASTERN PLATEAU: Areas Nos. 4 and 11.
NORTH INTERIOR: Areas Nos. 8, 12, 15, eastern 19, 20.
CENTRAL INTERIOR: Areas Nos. 23 (eastern); 24, 30, 35 and western 38.
SOUTH INTERIOR: Northern 42, 44, 47, eastern 48, 41, 43, 46.
SOUTHERN MOUNTAINS: Areas Nos. 37, 41, 43, 46.
EASTSIDE: Areas Nos. 26, 32, eastern 38 and 39.
NORTH SIERRA: Eastern 7, 9, 10, 16.
CENTRAL SIERRA: Areas Nos. 17, 21, 25, 27.
SOUTHERN SIERRA: Areas Nos. 31, 33, 34.

LOWER SACRAMENTO: Areas Nos. 20 and eastern 19.
 UPPER SACRAMENTO: Areas Nos. 8, 12, 15.
 UPPER SAN JOAQUIN: Areas Nos. 35 and western 38.
 LOWER SAN JOAQUIN: Areas Nos. 24 and 30.
 CENTRAL VALLEYS: Areas Nos. 8, 12, 15, eastern 19, 20,
 northeastern 23, 24, 30, 35 and western 38.
 Delta: Areas Nos. southeastern 19, southwestern 20, north-
 eastern 23, northwestern 24.
 NORTHERN CALIFORNIA: Areas Nos. 1 to 21.
 CENTRAL CALIFORNIA: Areas Nos. 22 to 36, northwestern 37,
 and western 38.
 SOUTHERN CALIFORNIA: Southern and eastern 37, eastern 38,
 and 39 to 48.
 SIERRA: Areas eastern 7, 9, 10, 16, 17, 21, 25, 26, 27, 31,
 32, 33, 34.

11. The foregoing divisions apply to FIRE WEATHER forecasts. As an aid in interpreting the regular general forecasts, the following lists the areas covered by the regular State forecast sub-divisions:

BAY REGION: Areas southern 18, southwestern 19, western 23, and northwestern 22.
 NORTHERN CALIFORNIA: Areas 1 to northwestern 37 and western 38, plus northern 39.
 SIERRA NEVADA: As given under SIERRA, in paragraph 10, above.
 SACRAMENTO VALLEY: Areas 8, 12, 15, 20 and eastern 19.
 SANTA CLARA VALLEY: Southwestern 23, central 22.
 SAN JOAQUIN VALLEY: Areas 24, 30, 35, western 38.
 SALIN'S VALLEY: Most of 29 and interior 36.
 SOUTHERN CALIFORNIA: Southern and eastern 37, eastern 38, southern 39 and 40 to 48.

In general, VALLEY forecasts apply to the drainage named up to approximately 2500 feet. COAST applies usually to coast and immediate coastal valleys only, and usually only to lower parts of the latter.

12. The larger divisions mentioned in paragraphs 10 and 11 may be sub-divided into portions given direction designations, on the same principles outlined in paragraph 9, when such generalizations are desirable or necessary. For fire weather forecast purposes, however, effort will be made so far as practicable to use the divisions in paragraph 8. Such use of fire weather forecast unit areas is MANDATORY for mobile units.

13. Altitude zones or levels used in California fire weather forecasts are as follows:

VERY LOW-under 2000 feet LOW-2000 to 4000 feet
 INTERMEDIATE or MODERATE-4000 to 6000 feet
 HIGH-6000 to 8000 feet VERY HIGH-over 8000 feet
 LOWER refers to levels below 4000 feet; HIGHER to levels above 6000 feet. The terms HIGHEST and LOWEST also are used and refer to the highest and lowest levels in the area for which the forecast is made. Usually a comparatively narrow altitude zone is meant by these terms.

14. Pending publication of a new standard fire weather forecast terminology, the following condensation which agrees substantially with the latest draft of the final terminology, will be useful: When the terminology is printed and distributed, please cancel this paragraph completely.

(a) The following will appear in forecasts, and ordinarily in the order listed:

Weather, Temperature, Relative Humidity, Wind Direction and Velocity. When required, supplementary information will be added and will include Danger Statements and Special Advises (Cautionary remarks or miscellaneous).

(b) The following types of forecasts may be issued:

General Outlooks: Covering expected conditions for 2 or 3 days in advance in generalized language.

Daily Forecasts: Covering expected conditions for the first 12 hours in as much detail as practicable, and in lesser detail for succeeding 12 hour periods, not in excess of a total of 36 hours for AM forecasts and 48 hours for PM forecasts.

Special Localized Forecasts: For short periods (3 to 12 hours) in as much detail as circumstances warrant, for emergency conditions or when requested.

(c) Periods covered by forecasts issued daily are as follows:

AM First period, time of release to 8 p.m. of current day, termed TODAY.
Second period, 8 p.m. of current day to 8 a.m. following day, termed TONIGHT.
Third period, 8 a.m. to 8 p.m. of following day, given NAME OF DAY.

PM First period, time of release to 8 a.m. next morning, termed TONIGHT.
Second period, 8 a.m. to 8 p.m. following day, given DAY NAME.
Third period, 8 p.m. of this day to 8 p.m. of second day ahead, given NAME OF SECOND DAY.

(d) Other time terms may be used as follows:

Early morning.....	midnight to sunrise
Forenoon.....	sunrise to noon
Mid-day.....	10 a.m. to 2 p.m.
Early afternoon.....	noon to 3 p.m.
Late afternoon.....	3 p.m. to sunset
Early evening.....	sunset to 9 p.m.
Late evening.....	9 p.m. to midnight
Evening.....	sunset to midnight
Midnight.....	10 p.m. to 2 a.m.

(c) The following forecast terms may be used:

WEATHER: Clear, no precipitation, sky free of clouds or nearly so. Partly cloudy, no precipitation, sky partially clouded. Cloudy, no precipitation, sky completely overcast or nearly so. Fair, no precipitation, sky may range from clear to cloudy during period. Mostly cloudy, no precipitation, mostly overcast sky. Generally fair, slight possibility of light scattered precipitation, variation in cloudiness. Increasing cloudiness, no precipitation, progressive increase in amount of cloudiness or density of cloud layers during period. Decreasing cloudiness, opposite of increasing. Clearing, precipitation in one period to end during the period specified, followed shortly thereafter by clearing skies. Unsettled, very little or no precipitation, considerable cloudiness and threatening weather, or becoming threatening. Threatening, precipitation unlikely (less than 50% chance), sky overcast with dark, lowering clouds. Fog, ice and frost may be used, also.

PRECIPITATION: Rain (or snow), precipitation of comparatively long duration; over a major portion of the area. Occasional rain (or snow), widespread precipitation at infrequent intervals and not prolonged. Local rain (or snow), precipitation of comparatively long duration over limited portions of the area (most probably at high levels). General rain (or snow), widespread precipitation of prolonged duration and in amount sufficient to materially reduce fire danger. Showers (or flurries), precipitation intermittent and of short duration (may be modified by terms general or local, or/and by expected amounts). Terms indicating likelihood of occurrence: possibly, less than 50% chance; likely, 50% to 65%; probably, 65% to 85%; no term, more than 85%. Amounts expected may be indicated as follows: light, .10" rain, 1" snow, or less; moderate, .10" to .50" rain, 1" to 6" snow; heavy, more than .50" rain or 6" snow.

THUNDERSTORMS: Definition: lightning in connection with cumulus type clouds (thunder may or may not be heard and precipitation may or may not reach the ground). May be modified by terms light, moderate or heavy, relating to intensity, or by other terms relating to size, area affected, accompanying precipitation, probability of occurrence, etc., as indicated below. General, widespread and of large size; scattered, sporadic distribution, moderate size; local, occurring over comparatively limited areas of small or moderate size. Dry, less than .10" accompanying precipitation; moist, .10" to .50"; wet, more than .50". Probability indicated by terms given under precipitation, above. Thundershowers, rain expected with storms. Thunderstorms, rain may or may not occur. The following forecast terms and relative weights are used in the California region in rating lightning fire inception danger:

Cloud base*	Extent	Intensity	Precipitation	Direction moving from
Very low 6	General 5	Very heavy 4	Very dry 3	SE, SW 2
Low 5	Scattered 3	Heavy 3	Dry 3	E, S, W 1
Moderate 4	Local 1	Moderate 2	Moist 2	N, NW, NE 0
High 2		Light 1	Wet 0	Calm 0
Very high 0		Very light 0	Very wet-2	
Weights for missing items				
3	2	2	2	1

*Above sea level. Actual danger is dependent on height above ground, as follows: 1500' or less, 6; 1600'-2500', 5; 2600'-3500', 4; 3600'-5000', 2; 5100' or more, 0. To obtain rating, add appropriate weights for each item given in the table above, substituting suitable weights for missing items, and using cloud base elevations above ground when practicable; the result will be the approximate lightning fire inception danger on a scale of 0 to 20, as expected by the forecaster. It is clear that actual observations may be so rated, also, and will give useful clues to the fire business to be expected from a given storm. The weights are based on averages, however, and obviously may not give satisfactory results for some individual cases. Over a period, however, it is believed that the weights are fairly representative, based as they are on analysis of 30 years of records.

TEMPERATURE: All changes refer to the period as a whole in comparison with equivalent times 24 hours previous. Modifications of terms warmer, cooler or colder, falling, rising, etc. may be used as follows, otherwise changes of 6 degrees F. or more are expected: Slightly, less than 6 deg. change; somewhat, 6 to 15 deg. change; much, more than 15 deg. Rising or falling indicate progressive changes during period, of at least 6 degrees by end of period; may be modified by slowly or rapidly, to indicate rate of change. Continued indicates conditions will remain unchanged within a 6 deg. limit. Normal, above normal or below normal, indicate respectively within 6 degs. of average for the time of day, season and place; or departures by as much as 6 degs. from average in the direction indicated. Little change, change of less than 6 degs. in either direction. No material change should be understood to be expected if mention in telegraphed forecasts is omitted.

RELATIVE HUMIDITY: Very high, over 80%; high, 61% to 80%; moderate, 41% to 60%; moderately low, 31% to 40%; low, 21% to 30%; very low, 20% or less; extremely low, 10% or less. Rising or falling, progressive changes, as for temperature, amount unspecified; may be modified by slowly or rapidly. Higher or lower may be modified by slightly, changes averaging 5% or less; somewhat, 6% to 15%; materially, 16% to 30%; and decidedly, 31% or more. Little change, less than 5% change expected. Normal, within 5% of average for time and place. Above or below normal, departures from average to the extent of 10%. Continued, no material change when used alone; or may be used as a modifier of the levels given

at the beginning of these humidity terms. Specific estimates may be made of expected values, when appropriate, and usually of maximum and minimum values, referring to the 24 hour maximum and minimum and not to similar values during a 12 hour period.

WINDS: Variable, uncertain and irregular, subject to slow to moderate changes of varying magnitude; changeable, as above, but fluctuations more decided. Mostly, to indicate direction expected to predominate. Becoming, changes from one to another general prevailing direction. Directions are given to eight points of the compass. The principal directions, north, north-east, east, etc., refer to direction FROM which the wind will prevail, the direction indicated being the center of an arc of approximately 22½ degrees. A more general direction (arc of 45 degrees) is indicated by adding only to the principal directions. A still more general direction is indicated by combining directions separated by not exceeding 90 degrees, such as "north to east". Veering indicates progressive direction changes in a clockwise sense; backing in a counter-clockwise sense. Upslope and downslope winds are produced jointly by topography and thermal effects, and are winds which blow directly up or down slopes (former afternoons, latter nights, under normal circumstances). Eddies describe variations from prevailing flow produced by mechanical obstructions, such as ridges. Gusty is used when rapid and wide variations in force or velocity in short time intervals are expected, and may be modified by somewhat, moderately or very. Squally indicates recurrent blasts of longer duration than gusts and from a fairly steady direction. Wind velocity is indicated by Beaufort scale terms, and the forecasts indicate the approximate average wind velocity during the period as a whole and for the area as a whole, except as modified. The following terms for force or velocity are employed:

Calm.....	less than 1 m.p.h.
Very light.....	1 to 3
Light.....	4 to 7
Gentle.....	8 to 12
Moderate.....	13 to 18
Fresh.....	19 to 24
Strong.....	25 to 38
Gale.....	39 to 54
Whole gale.....	55 to 75
Hurricane.....	Over 75 m.p.h.

MISCELLANEOUS: In guidance forecasts to mobile units and in forecast telegrams (but not in radio broadcasts), omission of terms indicating changes in the various items indicates that little or no change is expected. ALL FORECASTS INDICATE CHANGES EXPECTED IN COMPARISON WITH CONDITIONS 24 HOURS PREVIOUS. This is necessary to eliminate diurnal effects, or the normal differences between night and day. The following modifiers of areas may be used:

General(ly)-widespread, all or most of the area.

Local(ly)---Limited or scattered parts of the area.

Scattered---Sporadic distribution.

Slopes-----The whole of appropriate sides of major mountain divides, from toe to ridge, given appropriate direction names (west, south, etc.)

15. The following lists all authorized recipients of telegraphed fire weather forecasts (Weather Bureau expense).
a: indicates forecasts telegraphed only when radio does not function; or only for forecasts specially requested of San Francisco (for going fires or fire control uses).
b: indicates forecasts telegraphed from San Francisco only occasionally when changes of material consequence to fire control are expected.
c: indicates places to which special warnings may be sent from San Francisco.
d: indicates regular daily forecasts.

Observer; Mt. Shasta, Calif. cd (or to mobile unit)
Observer, Pasadena, Calif. cd "
State Forester, Sacramento, Calif. cd
Observer; Eureka, Calif. (for local dissemination) bc
Observer; Redding, Calif. " bc
Observer; San Diego, Calif. " bc
Observer; Los Angeles, Calif. " bc
Forestry; Yreka, Calif. ac
Forestry; Alturas, Calif. ac
Forestry; Mt. Shasta, Calif. ac (in absence of mobile unit)
Forestry; Weaverville, Calif. ac
Forestry; Susanville, Calif. ac
Forestry; Quincy, Calif. ac Pac. Tel. & Tel.
Forestry; Willows, Calif. bc
Forestry; Nevada City, Calif. bc
Forestry; Truckee, Calif. bc
Forestry; Placerville, Calif. bc
Forestry; King City, Calif. bc
Forestry; Sonora, Calif. ac
Forestry; Northfork, Calif. ac
Forestry; Porterville, Calif. ac
Forestry; Santa Barbara, Calif. ac
Forestry; Pasadena, Calif. ac (in absence of mobile unit)
Forestry; Del Rosa, Calif. ac
Superintendent; Sequoia Natl. Park, Calif. ac Pac. T.&T.
Superintendent, Yosemite Natl. Park, Calif. ac
Park Superintendent, Mineral, Calif. ac
State Fire Ranger, 512 16th St., Oakland, Calif. bc

Note: Foregoing all sent via Western Union except as noted.

The following are sent by telephone:

Fire Department; San Francisco (Underhill 8000) bc
Fire Department; Oakland (Higate 3322) bc
Fire Department, Berkeley (BERkeley 8500)

By mail, phone and messenger:

National Park Service, Berkeley and San Francisco cd
U. S. Forest Service, San Francisco bd
State Forester, Sacramento bd
N. B. C., San Francisco d (for Far Western States)

Any places listed which later secure radio equipment will be placed in the ac classification.

